

WHAT IS CLAIMED IS:

1. A ferrite assembly comprising:
a first conductor;
a plurality of ferrite members each having a core and being in electrical communication with said first conductor; and
a plurality of current dividing members being in electrical communication with said first conductor, wherein said plurality of current dividing members define a plurality of passages allowing an airflow therethrough.
2. The ferrite assembly of claim 1, wherein said plurality of current dividing members are disposed on a location being selected from the group consisting of a first side of said first conductor, a second side of said first conductor, and any combinations thereof.
3. The ferrite assembly of claim 1, wherein said plurality of current dividing members are a material being selected from the group consisting of a copper material, an aluminum, a conductive material, and any combinations thereof.
4. The ferrite assembly of claim 1, further comprising a plurality of spacers, said plurality of spacers being disposed between said plurality of current dividing members and said first conductor.
5. The ferrite assembly of claim 1, wherein said plurality of spacers are a material being selected from the group consisting of a copper, material, an aluminum, a conductive material, and any combinations thereof.
6. The ferrite assembly of claim 1, wherein said first conductor has a length, one of said plurality of ferrite members being disposed at a first location, and another of said plurality of ferrite members being disposed at a second location, and wherein said plurality of current dividing members are disposed between said first

location and said second location in electrical communication with said plurality of ferrite members.

7. A ferrite assembly comprising:

a first conduit having a first longitudinal axis;

a first ferrite member and a second ferrite member surrounding said first conduit about said first longitudinal axis, said first and said second ferrite members being in electrical communication with said first conduit;

a second conduit being disposed parallel to a first side of said first conduit;

a first spacer material placing said first and second conduits in electrical communication so that a first aperture is defined therebetween;

a third conduit being disposed parallel to a second side of said first conduit;

a second spacer material placing said first and said third conduits in electrical communication so that a second aperture is defined therebetween, wherein current traversing through said first conduit communicates with said second conduit, said first spacer material, said third conduit so that said first and said second apertures define a cooling path.

8. The ferrite assembly of claim 7, wherein said first ferrite member limits a rate of change of current in said first current carrying conduit, said second current carrying conduit, and said third current carrying conduit, and wherein the ferrite assembly limits power across a component being in electrical communication with said first current carrying conduit, said second current carrying conduit, and said third current carrying conduit.

9. The ferrite assembly of claim 7, wherein said first, second, and third conduits are formed from a material being selected from the group consisting of a copper, an aluminum, a conductive material, and any combinations thereof.

10. The ferrite assembly of claim 7, wherein said second conduit is disposed between said first ferrite member and said second ferrite member on said first side, and wherein said third conduit is between said first ferrite member and said second ferrite member on said second side.

11. The ferrite assembly of claim 10, further comprising a fourth conduit, a fifth conduit, and a third ferrite member, said third ferrite member being in electrical communication with said first conduit, said third ferrite member surrounding said first conduit about said first longitudinal axis.

12. The ferrite assembly of claim 11, wherein said fourth conduit is disposed in a third position being parallel to said first longitudinal axis.

13. The ferrite assembly of claim 12, wherein said fifth conduit is disposed in a fourth position being parallel to said first longitudinal axis.

14. The ferrite assembly of claim 13, further comprising a third spacer material being connected between said fourth conduit and said first conduit.

15. The ferrite assembly of claim 14, further comprising a fourth spacer material being connected between said fifth conduit and said first conduit.

16. The ferrite assembly of claim 15, wherein said third spacer material places said first and fifth conduits in electrical communication so that a third aperture is defined therebetween, said third aperture defining a second cooling path.

17. The ferrite assembly of claim 16, wherein said fourth spacer material places said first and said fourth conduits in electrical communication so that a fourth aperture is defined therebetween, said fourth aperture defining a third cooling path.

18. The ferrite assembly of claim 17, wherein said fourth and fifth conduits are formed from a material being selected from the group consisting of a copper, an aluminum, a conductive material, and any combinations thereof.

19. The ferrite assembly of claim 18, wherein said fourth conduit is between said second ferrite member and said third ferrite member in said third position, and wherein said fifth conduit is between said second ferrite member and said third ferrite member in said fourth position.

20. A ferrite assembly comprising:
a first conduit having a first end and a second end;
a plurality of ferrite members each having a core, said plurality of ferrite members being in electrical communication with said first conduit, wherein said first conduit has a shape and a linear length, said linear length being longer than a distance between said first end and said second end.